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DATE 12/2/42
REVIEWED

OXC-6454-64
Copy 4 of 14

14 February 1964

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MEMORANDUM FOR THE RECORD

SUBJECT : Evaluation of Pressure Suits Being Used
OX CART

Problem:

Complaint of discomfort by a majority of pilots.

Analysis:

The problem of comfort, as associated with partial and full pressure suits, has been of primary concern since the first garment was fabricated for the Air Force years ago. Realizing this, every effort has been made to insure that the OXCART pilots were properly fitted. This was accomplished by detailed body measurements of each individual, followed by a preliminary fitting of a partially completed suit and finally a fitting of the completed garment. Each pilot was then indoctrinated in an altitude chamber where the mission profile, and emergency situations were simulated. After each chamber run the pilot was interviewed regarding the experience and encouraged to register any complaints that he might have. In some cases it was necessary to return the pressure suit to the manufacturer for modification. The garment was then considered qualified for flight. A second suit was fabricated from the final patterns.

During the past few months an increasing number of complaints have been registered regarding suit comfort. As a result, D. Clark Co. sent an experienced man to [] for a two week period to determine precisely the reasons for the complaints. Pilots were remeasured and where possible on the spot modifications were made. It was decided that several suits would have to be returned to the factory. The estimated cost of the changes will be approximately []

David Clark Co. is making pressure suits for project GEMINI which incorporate a routing of the zipper different than the OXCART suits. This appears to offer a more comfortable overall configuration and could be adapted to our suits. David Clark Co. estimates the cost of this conversion to be between [] per garment.

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Conclusions:

It is presently indicated that some OXCART suits need rather major modification and will have to be returned to D. Clark.

The GEMINI zipper appears to be a promising innovation for overall comfort improvement.

Recommendations:

Those OXCART suits that are most uncomfortable be returned to D. Clark for the GEMINI modification. If, as a result of pilot evaluation of the change, it is concluded that it is a major improvement then one of the two suits in possession of each OXCART and LAC pilots be so modified.

[REDACTED]
Aircraft Systems Division
(Special Activities)

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APD/OSA [REDACTED] jlf (14 February 1964)

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